



George C. Marshall  
Space Flight Center

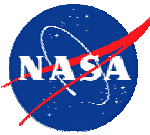
# Marshall Quality Council

June 24, 2002

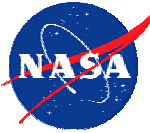


# Opening Remarks

Art Stephenson – Axel Roth



- Continual Improvement
  - Customer Satisfaction Success Story (Sam Ortega – MP51) – Postponed (on TDY)
  - Continual Improvement Success Story (Danny Hightower – CD10)
  - Collaborative Efforts with Organizations Outside of MSFC (Bill Kauffman – ED03)
  - Continual Learning - (John Heath - CD20)
- MQC Action Items Status (Axel Roth – DE01)
- Process Performance and Product Conformity (Axel Roth - DE01)
- Internal Quality Audit Report (Warren Woods – QS40)
- Corrective and Preventive Action Program (John McPherson - HEI)
- Customer Satisfaction & Balanced Scorecard (Don Miller – QS40)
- Status of NQA Findings (Mary DeMurray - HEI)
- Closing Remarks (Axel Roth – DE01)
  - Changes That Could Affect the MMS
  - Issues & Recommendations
  - Assessment of the suitability, adequacy, and effectiveness of the MMS
- Other



# Continual Improvement Success Story

Danny Hightower

# MARSHALL SPACE FLIGHT CENTER CUSTOMER & EMPLOYEE RELATIONS DIRECTORATE



## *MSFC HUMAN RESOURCES DEPARTMENT NASA STARS – A CONTINUOUS IMPROVEMENT SUCCESS STORY*

- **WHY:** Staffing and recruiting function labor intensive
  - “Hard copy” applications
  - “Hard copy” files
  - Manual rating/ranking/referral
- **WHAT:** NASA Staffing and Recruiting System (NASA STARS)
  - IFMP Pathfinder Project
  - Automated commercial off-the-shelf software
  - Outside hiring and internal placement
- **CHALLENGES:**
  - Aggressive schedule
  - “Culture Change”





# MARSHALL SPACE FLIGHT CENTER CUSTOMER & EMPLOYEE RELATIONS DIRECTORATE



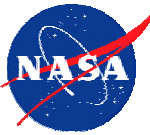
## *MSFC HUMAN RESOURCES DEPARTMENT NASA STARS – A CONTINUOUS IMPROVEMENT SUCCESS STORY*

- **HOW:** Communication and Teamwork
  - HRD Staff
  - Internal communications
  - IFMP NASA STARS Project Office
  - MSFC IFMP Institutional Support Team
  - MSFC Administrative Officers

- **RESULTS:**

- Roll-out on schedule
- Positive response
- Reduced processing time
- Government-wide recognition





# Success Story for Collaborative Effort with Organizations Outside of MSFC

Billy Kauffman ED03



Success Story for Collaborative Effort with Organizations Outside of MSFC

The logo for NASA's Space Environments and Effects (SEE) Program is a circular emblem with a yellow starburst background. The outer ring of the emblem contains the text "SPACE ENVIRONMENTS AND EFFECTS" at the top and "Developing Tomorrow's Space Technology Today" at the bottom. The center of the emblem features a stylized globe with a red and white satellite dish or antenna pointing towards it.

# ***NASA's Space Environments and Effects (SEE) Program***

**Billy Kauffman**

**(256) 544-1418**

**billy.kauffman@msfc.nasa.gov**

NO.8



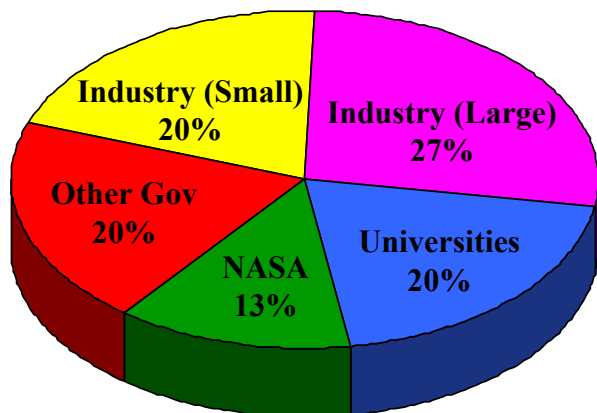


- **July 12, 2001:** Released NRA8-31 solicitation for proposals involving the Living With a Star: Space Environment Testbeds (SET) Program and the Space Environments and Effects (SEE) Program; ~ \$2M combined;
- **Unique:** The LWS:SET Program is a Code S Program and the SEE Program is primarily a Code R Program; 1<sup>st</sup> time anyone can recall that 2 different request for proposals from different Programs in one NRA; Seamless transition between programs....working as one to avoid duplication;
- **Partnering/Leveraging:** The SEE Program was developing its own NRA and included the SET request to save NASA resources; SEE was scheduled to manage contracts if solicitation came out of GSFC/HQs; Utilized one set of Procurement resources (MSFC) which saves time/labor and use of experience;
- **Relief:** SET would have lost the resources due to '02 President's budget to other Code S science programs which would have hurt the space environment engineering design community;
- **Success:** Released NRA in July; all have been awarded;
- **Publicity:** This joint NRA helps solidify the SEE Program as NASA's "one stop" for the space environment and effects engineering design community.



## **LWS/SET**

(15 Proposals)



**NRA Resources: ~\$800K (received plus-up to bring total to ~\$880K)**

**Resource Restriction:  $\leq$ \$125K per year**

**Contract Restrictions: 1 Year only**

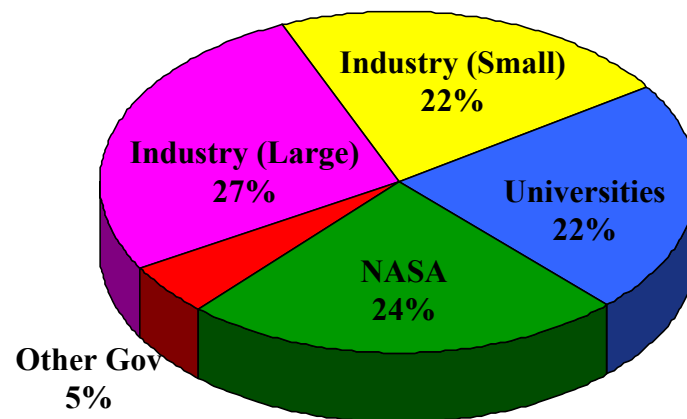
**NRA Resources: ~\$1.1M**

**Resource Restriction:  $\leq$ \$150K per year**

**Contract Restrictions: 1,2,3 Years w/options**

## **SEE**

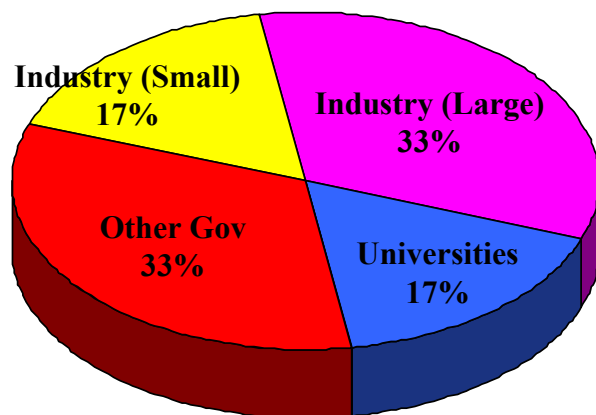
(37 Proposals)





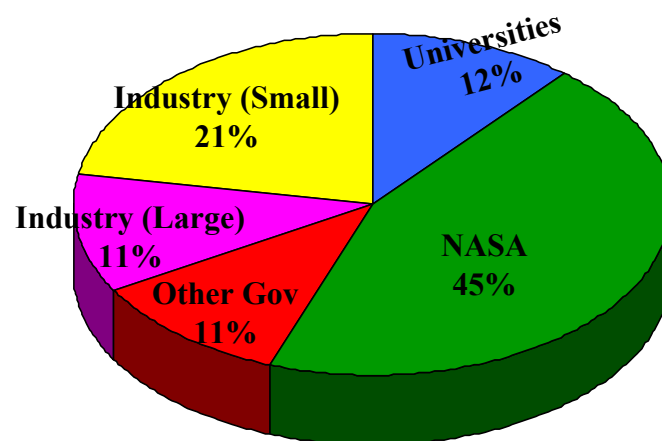
## **LWS/SET\***

(8 Proposals awarded)

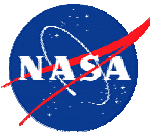


## **SEE**

(9 Proposals awarded)



\* NASA did not receive any funding in the LWS/SET portion of the awards.



# Continual Learning

John Heath/CD20

In FY2001, center training opportunities were increased by 85%. This growth was led by a 193% increase in technology-assisted learning.

### Major FY2002 initiatives:



Expand e-learning program.



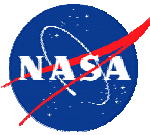
Improve training needs survey.



Expand OD & leadership development program.



Increase cost control, system engineering and program management training.

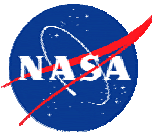


# MQC Action Items Status

Axel Roth

MQC-0049 – *Define the stoplight colors used for the Executive Summaries and provide in the report at the next MQC meeting.*

- Discovered that stoplight criteria were not being utilized consistently during the reporting of the monthly health statuses
- A memo was sent out on April 3, 2002 (from Axel Roth, DE01)
  - Determined as an Agency problem as well
  - Agency Program Management Council (PMC) established common stoplight criteria
  - Memo requested that all MSFC projects/programs utilize new criteria
  - New criteria listed on next two slides
- Recommend closure of this action



## *Agency Stoplight Criteria*

- Green represents: *Progress according to Plan*
  - Meeting management plans \* or commitments
  - No action required
- Yellow represents: *an Area of concern \*\**
  - Deviation from plans or commitments, but approved contingency/reserves exists to recover and successfully complete the program/project as approved \*
  - Needs attention. Problem can be resolved within the reporting organization.



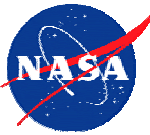


## *Agency Stoplight Criteria (cont)*

- Red represents: *a Significant problem*\*\*
    - Deviation from plans or commitments, with insufficient approved contingency/reserves to recover and successfully complete the program/project as approved\*
    - Needs action. Help required beyond the reporting organization to address the problem
- \* - In Implementation, the appropriate document is the approved program/project plan. If used in Formulation, report against appropriate approval document (e.g. FAD or equivalent).
- \*\* - Any “Yellow” or “Red” assessment requires a brief explanation of the problem and and action plan.

MQC-0050 – *The Marshall Values, Quality Policy, and Safety Policy should all be posted in each of the Center's conference rooms. (The static cling posters should not be used for this.)*

- All items have been posted in most conference rooms with a few remaining being worked
- Recommend closure of this action

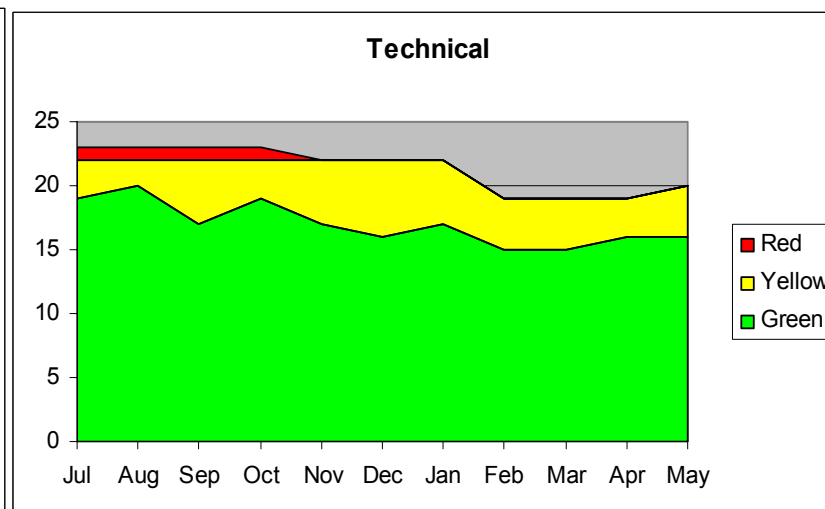
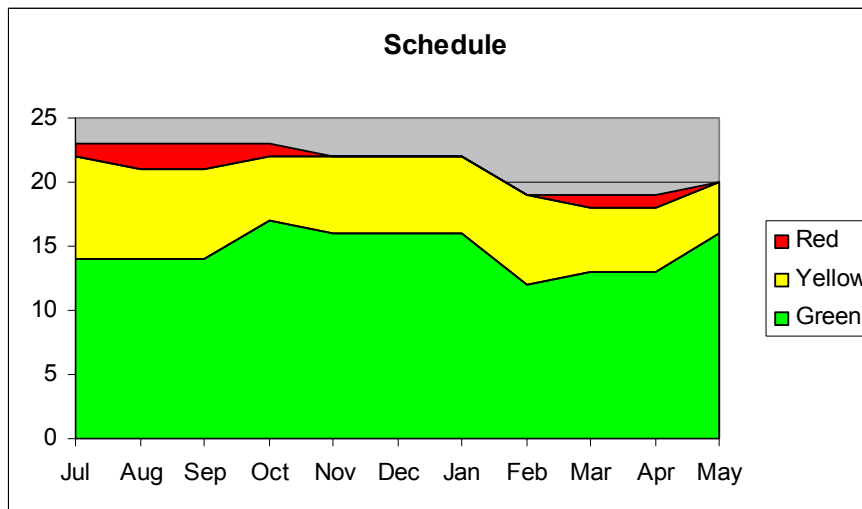
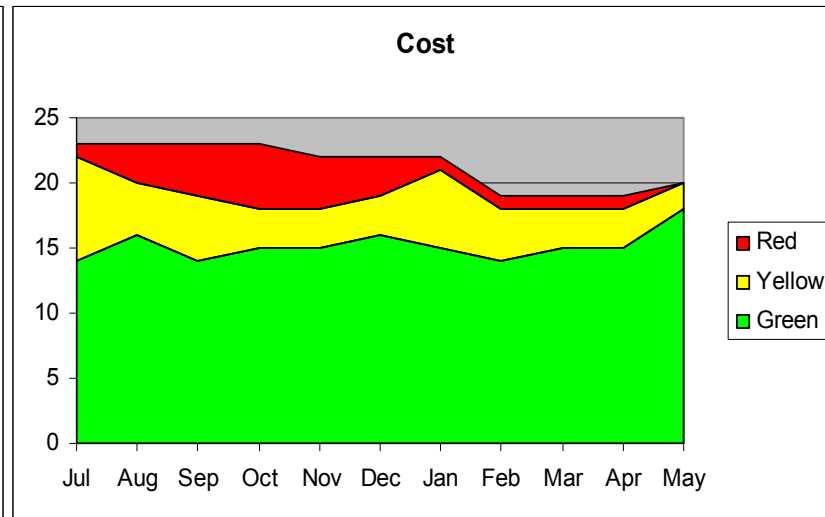
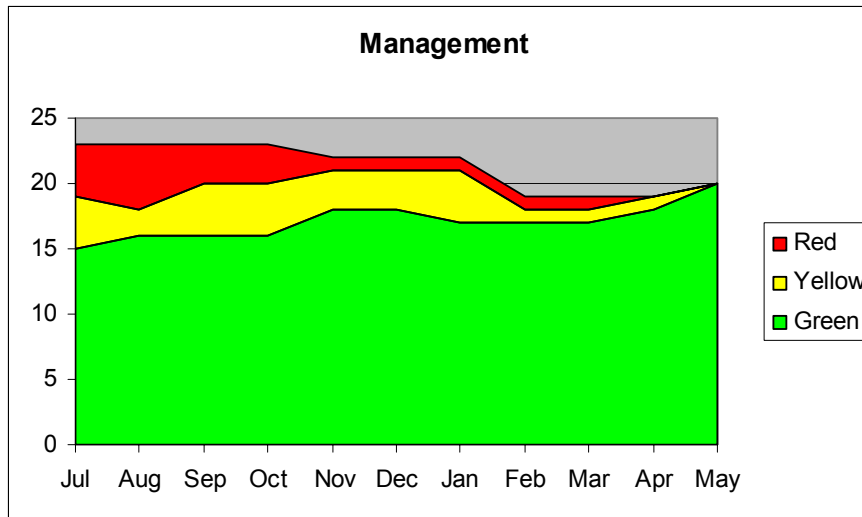


# Process Performance and Product Conformity

Axel Roth



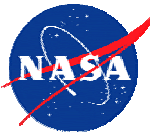
## July 2001 – May 2002 Executive Summaries



### Issues/Common Themes:

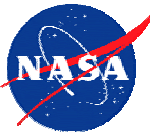
Notes: No data beginning in Nov. for X-38 DPS (being transferred to JSC)

No data beginning in Feb. for GRC, JPL, and JSC Microgravity Programs (transferred responsibilities)



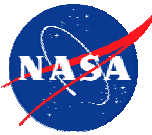
Process Performance and Product Conformity (cont) – Axel Roth

- 185 Directives
- 4 active Waivers against 3 Directives
  - MPG 5000.1 - Purchasing (OPR: PS) - 1 Waiver
  - MWI 5113.1 – Credit Card Operating Procedures – 2 Waivers
    - *Rules for use of credit cards to purchase flight hardware have been re-evaluated. If accepted at the next DCB meeting, off-the-shelf flight hardware purchases using Government Purchase Cards will be allowed, as long as any quality requirements are documented by a QA Representative prior to the order being placed by the Project*
  - MWI 7120.6 - Program/Project Risk Management (OPR: QS) - 1 Waiver
- The documented system appears to be adequate. (It is assumed that personnel seek deviations/waivers where necessary.)



# Internal Quality Audit Report

Warren Woods



Internal Quality Audit Report – Warren Woods

- Completed ten internal audits since the last MQC
- Completed the 2001 internal audit schedule in December
- Fifteen internal audits are planned for 2002
  - Twelve regular internal audits
  - One special on site audit (calibration)
  - Two audits of resident offices
- Eight are completed or are near completion
  - Seven regular audits
  - One resident office (KSC)

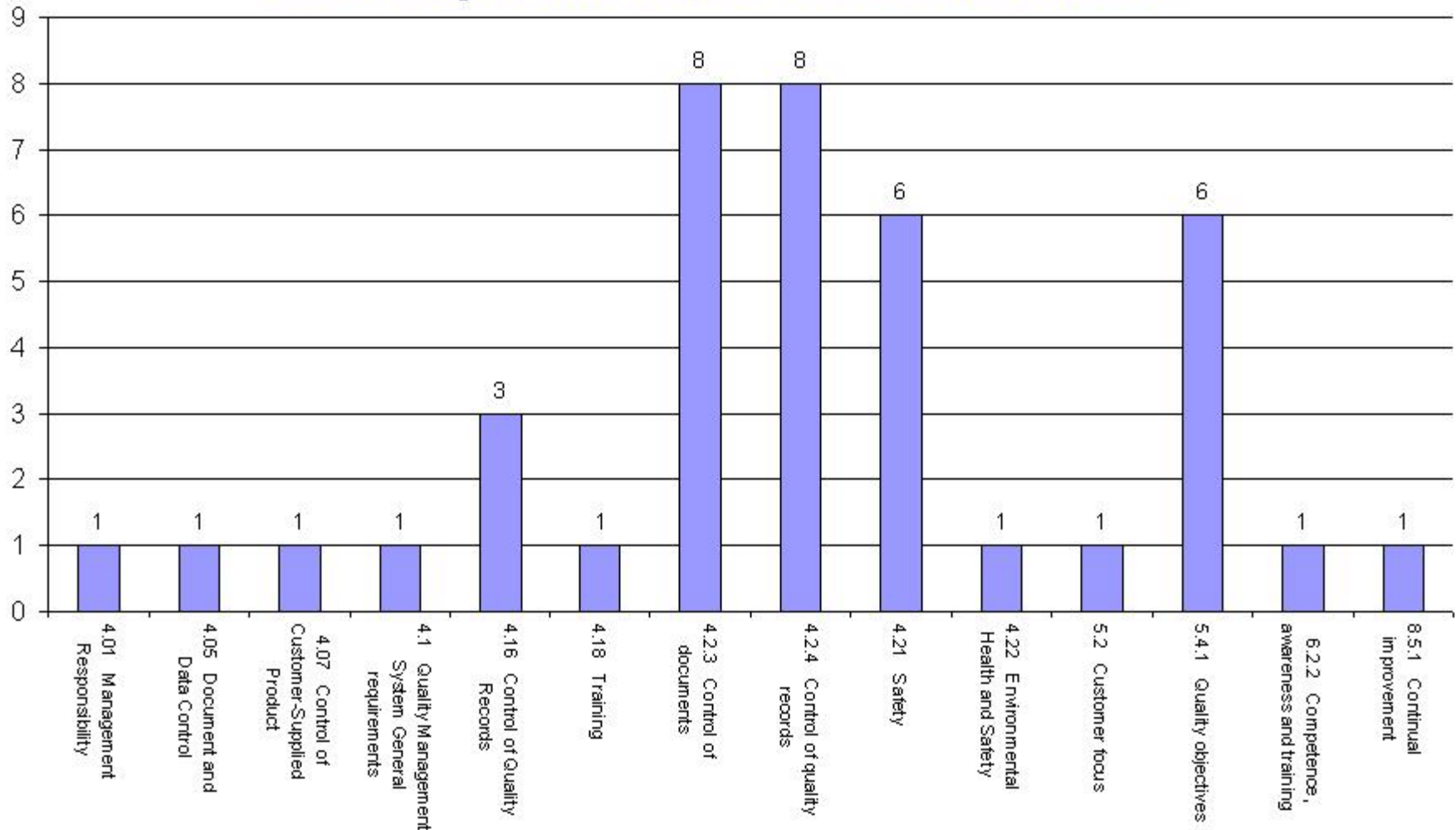


- Top Four Findings
  - Quality Records – Lack of approved draft records plans, missing or unidentified records
  - Document and Data Control – References not kept up-to-date or obsolete
  - Lack of awareness of quality objectives
  - Safety issues



Internal Quality Audit Report – Warren Woods

## Total Major and Minor Nonconformances

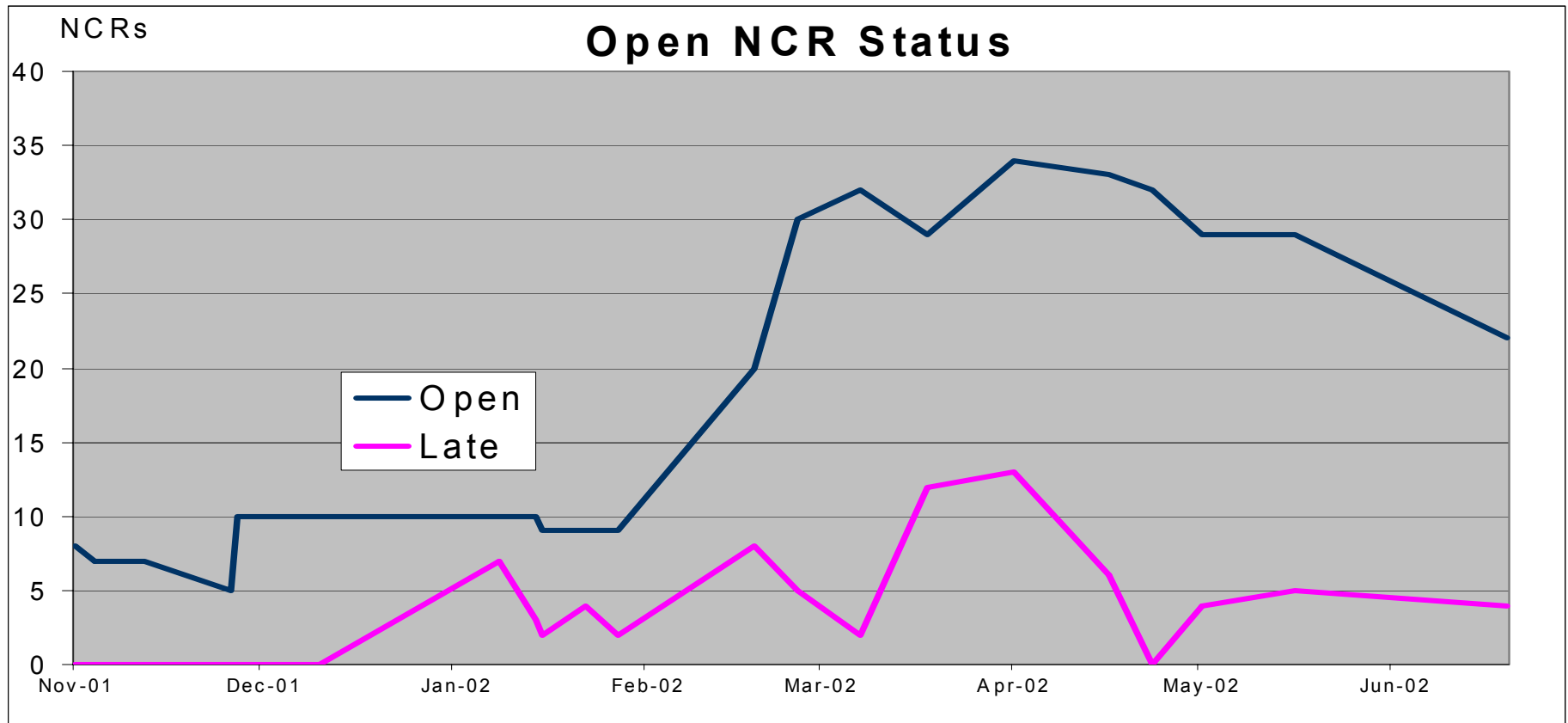


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Internal Quality Audit Report – Warren Woods

- Status of Open NCRs (See next chart)
  - 22 Open Nonconformance Reports (NCRs)
  - 4 are late as of 6/20/02
- Schedule
  - Remaining audits include the audit of TD, Calibration, SD, CD, FD, AD, and the Resident Office at SSC
  - All audits should be completed before Thanksgiving

Internal Quality Audit Report – Warren Woods



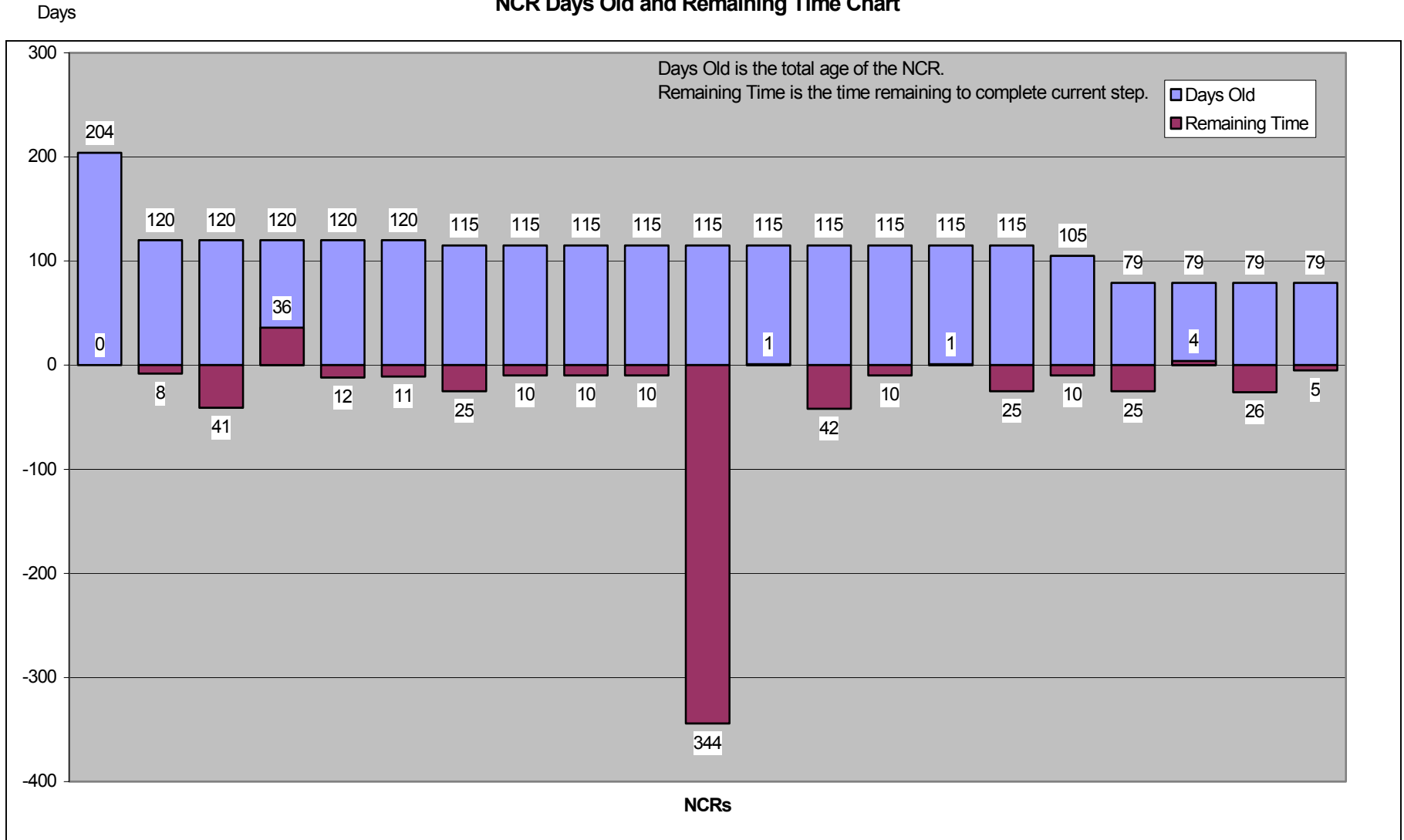
Primary reasons for most late items:

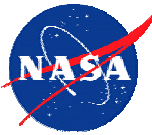
1. Missed target completion dates
2. Late Lead Auditor approval of corrective actions



## Internal Quality Audit Report – Warren Woods

**NCR Days Old and Remaining Time Chart**



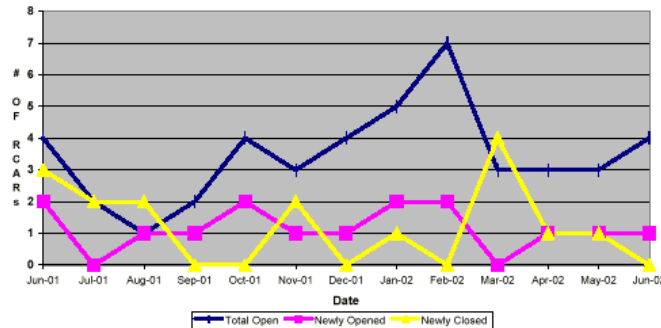


# Corrective & Preventive Action Program

John McPherson

## Corrective & Preventive Action Program – John McPherson

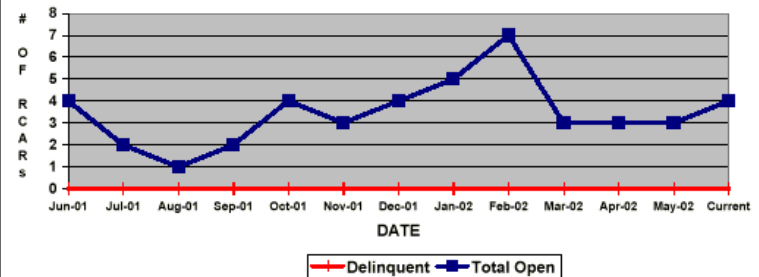
RCARs



Total Open RCARs:	4	2	1	2	4	3	4	5	7	3	3	3	4
Newly Opened RCARs:	2	0	1	1	2	1	1	2	2	0	1	1	1
Newly Closed RCARs:	3	2	2	0	0	2	0	1	0	4	1	1	0

HEI/J McPherson 6/19/2002

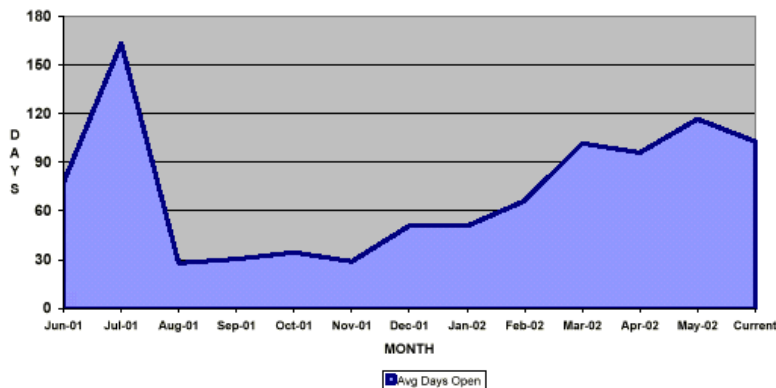
Open Versus Delinquent RCARs



Delinquent Responses:	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Open RCARs:	4	2	1	2	4	3	4	5	7	3	3	3	4
Percent Delinquent:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

HEI/J McPherson 6/19/2002

AVERAGE DAYS RCARs OPEN AT END OF MONTH



Average Days Open:	78	164	28	31	35	29	51	51	66	102	96	117	103
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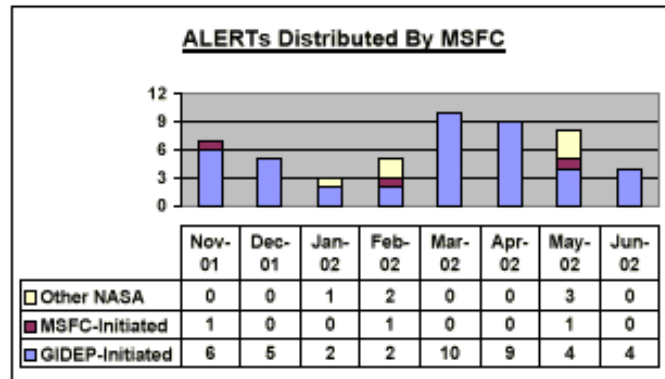
HEI/J McPherson 6/19/2002

	TOTAL Since 10/97	Made to RCARs	TOTAL Since 11/01/01	Made to RCARs
DR	382	51	106	6
QSDN	110	74	5	2
Cust Fdbk	116	1	74	1
TOTAL	608	126	185	9

HEI/J McPherson 6/19/2002

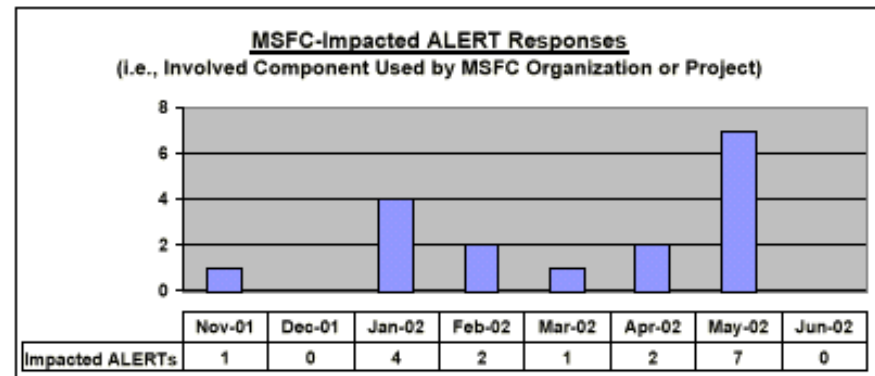
### Corrective/Preventive Action Notifications (CANs) – NONE Issued

### GIDEP and NASA ALERTs and Parts Advisories



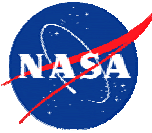
#### MSFC-Initiated ALERTs

NA-MSFC-02- Slotted, Hexagonal Nut Manufactured from 01: Incorrect Material (KO AM Machine Products)
NA-MSFC-02- NAJ6C 22-55 Cable Connectors (Amphenol Bendix) 02:
NA-MSFC-02- MP 35 N Material - Mixed Material, Bolt, Shear, High 03: Strength (SPS Technologies)



#### MSFC-Impacted ALERTs

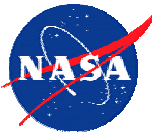
NA-MSFC-02-01 Slotted Hexagonal Nut Manufactured from Incorrect Material (KO AM)	ET (LMMSS)
C6-P-01-01 Fitting Lubrication, Zerk Type (Stewart-Warner Alemite Corp)	EG&G/ AD23
K4-P-01-01 Connector, Plug Electrical, Bayonet Coupling (Amphenol Corp)	SUBSA/ PFM
VV-A-02-01 EMI Filter (RFI Corp)	SUBSA/ PFM
AAN-U-00-11 Tin Plating, Whisker Growth	SUBSA/ PFM
NA-KSC-2002-02 Transistor Intermetallic Growth - Purple Plague (Raytheon)	USA-SRB
NA-MSFC-02-02 Cable Connector (Amphenol Bendix)	USA-SRB
DZ-S-02-01 Unauthorized Manufacture of Oxygen Hoses (Western Coupling)	ED30
DZ-P-02-01 Broken Chair Seat Frame (Herman Miller)	Cortez III and S&MA Q560
QL-A-02-01 Connector, Plug Electrical, Bayonet Coupling (Amphenol Corp)	USA-SRB
NA-MSFC-02-03 MP 35 N Material - Mixed Material, Bolt, Shear, High Strength (SPS Technologies)	ET (LMMSS) and USA-SRB
VV-P-02-02 Diodes, Power Rectifiers, Standard & Fast Recovery, Axial & Surface Mount	MSRR-1: Electrical, MC/VB, TECS, and VAS (Cortez III)



# Customer Satisfaction & Balanced Scorecard

Don Miller



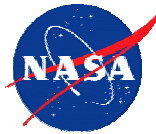


## **Balanced Scorecard Demo and Results**



# Status of NQA May 2002 Surveillance Audit Findings

Mary DeMurray



Status of NQA May 2002 Surveillance Audit Findings - Mary DeMurray

- NQA Surveillance Audit Findings

Observations (1 Carry-Over)	2
Minor Nonconformances	9
Total Findings	<hr/> 11

- The corrective action response is due to NQA by June 28, and is in work

# Closing Remarks

Axel Roth

- Next Surveillance Audit November 5-7, 2002
- All MSFC activities are subject to audit
- Emphasis will be on activities providing products/services to external customers
- Self-Assessment Checklists will be provided on the [ISO web site](#) for reference



ISO 9001 Clauses Selected for November Surveillance Audit – Axel Roth

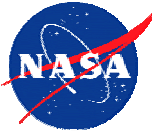
<b>4.2.1/4.2.2</b>	<b>Quality Manual</b>
<b>4.2.4</b>	<b>Control of Quality Records</b>
<b>5.4.1</b>	<b>Quality Objectives</b>
<b>5.6</b>	<b>Management Review</b>
<b>7.1</b>	<b>Planning of Product Realization</b>
<b>7.2</b>	<b>Customer-related Processes (including Communication)</b>
<b>7.3</b>	<b>Design and Development</b>

<b>7.5.1/ 7.5.3</b>	<b>Control of Production &amp; Service Provision/ Identification &amp; Traceability</b>
<b>8.2.1</b>	<b>Customer Satisfaction</b>
<b>8.2.2</b>	<b>Internal Audit</b>
<b>8.3</b>	<b>Control of Nonconforming Product</b>
<b>8.5.1</b>	<b>Continual Improvement</b>
<b>8.5.2/ 8.5.3</b>	<b>Corrective/Preventive Action</b>

Notes: Control of Documents will be included as it pertains to the selected clauses.

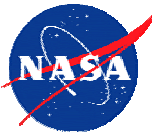


Signifies clauses that will be reviewed each visit



## Changes That Could Affect the MMS, Issues & Recommendations - Axel Roth

- Changes That Could Affect the MMS
  - There are no other significant changes at this time
- Issues & Recommendations
  - Organizations need to continue educating individuals on their role(s) in supporting quality objectives
  - Recommend everyone visit the ISO web site
  - Organizations need to continue to implement their Customer Satisfaction systems



Overall Status of the Marshall Management System – Axel Roth

- Overall, the suitability, effectiveness, and adequacy of the Marshall Management System (MMS) appear to be acceptable
  - Internal and external audits indicate no major problems with the MMS
  - Only 2 waivers have been approved since the last MQC
  - Customer Satisfaction indicators are positive overall